United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Salt Lake District Office
2370 South 2300 West
Salt Lake City, Utah 84119

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

3800
(UT-022)

AUG 26 1992

Dear Public Land User,

The Salt Lake District of the Bureau of Land Management (BLM) has recently completed an Environmental Assessment (EA) for a limestone mine proposed for construction in Tooele and Box Elder Counties, Utah. We are sending a copy of this EA to you because it discusses issues that might be of interest to you. Please send any comments which you may have to the attention of Phil Allard at:

Salt Lake District
Bureau of Land Management
2370 South 2300 West
Salt Lake City, Utah 84119

Thank you for your interest in the proper management of the Public Lands.

Sincerely,

Deane H. Zeller
District Manager

Enclosure
Environmental Assessment

Revised 2/4/92

DOGM MINERALS PROGRAM FILE COPY

RECEIVED
AUG 27 1992
DIVISION OF OIL, GAS & MINING

ENVIRONMENTAL ASSESSMENT CHECKLIST

EA TITLE Lakeside Mtn Project **EA NUMBER** 024-91-3

RESOURCE AREA PERA **AUTHOR** Steve Brooks

ACTION:

		Initial & Date
1.	Write up proposed action & alternatives:	SB 3/10/92
2.	Route to area staff for comments and request for draft EA	
3.	Intensity: (X) Standard ( ) Minimum Documentation	
	Environmental Documentation List	
	Environmental Coordinator Concurrence	
4.	Draft EA routed to staff as requested:	
5.	Final EA routed to staff as necessary:	

		Proposed Action Review Initial/Date	See EA	Draft EA Init/Date	Final EA Init/Date
Mike	LANDS			MM 5/4	MM 6/4
Steve/Maria	MINERALS	SB 3/10		SB 3/10	
Tom	*AIR QUALITY	ICR 3/18		ICR 3/18	ICR 6-3
	~~CLIMATE~~				
Debbie	WILDLIFE	DJ 3/18			DJ 5/29
Debbie	*T/E WILDLIFE	DJ 3/18			DJ 5/29
Debbie	*WETLANDS	DJ 3/18			DJ 5/29
Duane/Rob	VEGETATION	RJA 3/17		RJA 3/17	RJA 5/4
~~Duane~~ Gary	RANGE	3/18		3/18	
~~Duane~~	*T/E PLANTS	3/18		3/18	See Comments
Tom	WATERSHED/SOILS	3-18		3-18	
Clair	*WATER QUALITY, DRINKING	CFD 3/18		CFD 3/18	CFD 6/2
Clair	*FLOODPLAINS	CFD 3/18		CFD 3/18	CFD 6/2
Mike	*PRIME/UNIQUE FARMLANDS	MM 5/5		MM 5/5	MM 5/5
Duane	FORESTRY	DBJ 3/18	NA		
Gregg/Connie	RECREATION/OHV			KM 3/10	
Gregg/Connie	*WILDERNESS/ACEC	for GM		5/4/92	
Gregg/Connie	VISUAL RESOURCES			KM 3/10	
Signa	*CULTURAL RESOURCES	sll 3/19 - See insert		sll 3/19	sll 5/28 see changes
Signa	*NAT. AMER. RELIG. CONCERNS	sll 3/19	"	sll 3/19	sll 5/28 ok as is
Mike	PLANNING	MM 5/5		MM 5/5	MM 6/4
	~~SURFACE PROTECTION~~				
Dan N	*WASTES, HAZARDOUS, SOLID	DLN 3/19		DLN 3/19	DLN 6/1
	~~*WILD & SCENIC RIVERS~~				
	OPERATIONS (stip review) as necessary				

* **CRITICAL ITEMS**, may require negative declaration

6.	Environmental Coordinator review final EA, FONSI, Decision Record/Rationale:	DS 8/18
7.	AM/DM review final EA:	
8.	Project stipulations given to work force/applicant	

FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD

I have reviewed this environmental assessment including the explanation and resolution of any potentially significant environmental impacts. I have determine that the proposed action, with the mitigation measures described in the attached decision letter will not have any significant impacts on the human environment and that an EIS is not required. I have determined the proposed project is in conformance with the approved land use plans. It is my decision to implement the project with mitigation measures identified in the plan-of-operations and attached decision letter.

Salt Lake District Manager Deane H. Zeller Date 8/21/82

ENVIRONMENTAL ASSESSMENT

LAKESIDE MOUNTAINS LIMESTONE MINE

PLAN OF OPERATIONS SUBMITTED BY

MATERIALS ENERGY RESEARCH AND RECOVERY CORPORATION

UNDER 43 CFR 3809

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1/2 mile of the Golden Eagle nest would cease during the active nesting seasons.

Limestone would be reduced to lime by roasting in a rotary kiln at the existing Marblehead facility on private lands. Conventional open pit mining methods would be used at a rate of 6,100 tons per day. Mining would eventually remove rock from an area 300' wide, 225' deep and 2 miles long, although due to backfilling as mining progressed, only a portion of the area would be disturbed at a given time. Two pits are proposed to be opened initially, with waste rock to be placed adjacent to the pits. The mining sequence and layout of facilities is shown in Figures 3 and 4. Facilities include waste rock piles, topsoil piles, a crusher, maintenance shops, and storage for fuel and explosives. As mining proceeded, waste rock from the stockpiles shown in figure 4 would be used to backfill mined out areas. An existing road from the Lakeside Highway to the quarry would be upgraded to provide secondary access.

Interim Procedures

During operations all stockpiled topsoil will be sloped to 3:1, have straw crimped to act as a mulch and tackifier and seeded. Test revegetation plots will be constructed to help determine relative site specific success of plant species and soil amendments.

Reclamation

All facilities would be removed from public lands. Foundations would be ripped up and buried at least 4' deep in the pits. All areas would be graded to 3:1, or less, to blend with natural contours. After backfilling and grading of pits, crusher fines would be placed on the waste rock piles to act as a subsoil substitute. Approximately 21 inches of topsoil will be placed on the backfilled pits, mulch and fertilizer applied and the area seeded with a diverse mixture of native and introduced species. Revegetation must achieve 70% of naturally occurring native perennial vegetation prior to release.

All roads would have french drains removed, then the roads would be recontoured and ripped. Windrowed topsoil would be applied, mulched, fertilized and seeded.

No Action Alternative

As required by NEPA, the No Action Alternative has been considered. Environmental analysis did not identify that undue or unnecessary degradation of federal lands would occur as the result of this operation with consideration for the proposed reclamation and additional stipulated mitigation. MERR has been prompt in filing for and securing federal and state permits and authorizations.

These requirements having been met, coupled with the finding of no significant impact, effectively eliminates any basis for selection of this alternative.

Alternatives

Haul Road Alternatives

The proponent has, at the request of the BLM identified a proposed haul road and 5 alternative routes as shown in figure 5.

Haul Road Alternative 1, proponents' proposed action. This route lies along the uppermost portion of the alluvial fan at the base of the Lakeside Mountains. The road would connect to the existing haul road from the Marblehead Quarry. Two miles of this route would upgrade an existing dirt road. Although some of the alignment is within the shrub-juniper type, no junipers would be removed. It is the shortest route and would disturb less ground than all alternatives except 6.

Haul Road Alternative 2. This alternative follows the alignment of the proposed haul road as described in alternative 1. The southern portion of the route is lower to avoid shrub-juniper habitat.

Haul Road Alternative 3. This route follows a course midway between the low benches at the toe of the mountains and the flat plains to the west.

Haul Road Alternative 4. The northern part of this route follows the alignment identified in alternative 3. The southern part of the route follows an existing unimproved road to the existing plant access road.

Haul Road Alternative 5. The northern portion of this route is in the flats to the west of the other routes. The southern portion of this route follows the alignment identified in alternative 3.

Haul Road Alternative 6. This route utilizes the existing highway to the maximum extent possible. This is the longest route and would require the greatest amount of truck traffic to meet project design capacity.

Alternatives Considered

The following alternative was considered during the scoping process but for various reasons discussed below was not given full consideration. The proposed action is to dispose of waste rock in two areas adjacent to the first two quarries that would be mined as shown in figures 3 and 4. Increased concurrent reclamation was considered whereby waste rock dump 2 (Figure 4) would be reclaimed in-place immediately following construction. Selection of this alternative would not allow the pits to be completely backfilled,

although a reduction in the amount of rock needed to backfill the pits could be accomplished by leaving an approximately 40' high rock face for raptor nesting in pit 7 (Figure 5). A variance from Utah Division of Oil, Gas and Mining would be required if the pits were not backfilled.

Affected Environment

General Setting

The project area is near the base of the range on the west side of the Lakeside Mountains. Elevation ranges from 4400 feet to 4825 feet. Slopes are moderate to gentle ranging from 25 to 5%. The region is arid receiving approximately 6 inches of precipitation per year. Vegetation is sparse consisting of perennial and annual grasslands and scrub-juniper types. There are no perennial streams in the area. Intermittent streams may flow for brief periods after precipitation or runoff events. General aspects of the project area are shown by photographs in appendix 1.
Affected Resources

The following elements of the human environment are not present or effected by the proposed action or alternatives.

- Areas of Critical Environmental Concern
- Prime or unique farmlands
- Floodplains
- Wastes, Hazardous or Solid
- Ground waters of drinking quality
- Wetlands/riparian zones
- Wild and Scenic Rivers
- Wilderness Study Areas

Air Quality

The majority of the area is within the attainment category for the National Ambient Air Quality Standards and is classified as Class II under the Prevention of Significant Deterioration (PSD) of Air Quality regulations. However, emissions from process industries and fugitive dust associated with population and limited industrial activities are the greatest sources air pollution in Tooele County (USDI, 1988).

Geology and Mineral Resources

The Lakeside Mountains are a north-south trending range within the blockfaulted basin and range province. Strata consist chiefly of mid-Paleozoic carbonates. The proposed mine is in the upper Madison Formation of lower Mississippian age (350 million years before present). The units of commercial interest are high calcium limestone consisting of an upper bed 14 to 20 feet thick and a lower bed 34 to 40 feet thick separated by 6 to 9 feet of cherty

limestone. The beds dip 30 to 35 degrees to the west and have been identified over a strike length of 10,000 feet.

Water Resources

The proposed project is located within a closed hydrologic basin. Average annual precipitation is 6 to 8". Groundwater recharge areas are near the mountains. Groundwater becomes increasingly brackish away from the range front. In the project area groundwater contains an estimated 3500 ppm sodium and is suitable for stock watering, but would not meet drinking water standards of 500 ppm sodium. Depth to ground water is expected to be 300 to 500 feet. Existing water sources in the area include a well, water tank and pipeline to a trough 2 miles east of the proposed quarry near the proposed haul road (Figure 3). The water is used by livestock and wildlife. A guzzler has been constructed along the range front, Figure 3.

There are no perennial water sources in the project area. Numerous dry washes contain water for brief periods after infrequent runoff events.

Soils

The three widespread soil types in the vicinity of the quarry are the Amtoft, Cliffdown and Tooele. The Amtoft is on mountain slopes and hillsides with slopes of 30 to 70% formed in colluvium and residuum dominantly derived from limestone. The surface layer is about 9" thick overlying about 16" of subsoil to weathered bedrock. Organic matter content is 1 to 2% and the permeability is moderately rapid. Available water capacity is very low. Runoff is rapid and the hazard of water erosion is severe because of slope.

The Cliffdown is a very deep gravelly sandy loam formed on fan terrace with slopes of 2 to 15%. The soil is moderate to strongly alkaline and slightly saline. Organic content at the surface is less than 1% and the hazard of water erosion is moderate because of slope.

The Tooele is a very deep, well drained fine sandy loam on lake terraces and fan terraces having 0 to 5% slopes. It formed in eolian material, lacustrine sediments and alluvium derived from mixed rock sources. The soil is slightly saline and the organic content of the surface layer is 0.5 to 1.0%. The hazard of water and wind erosion is moderate because of soil surface texture. Included within the Tooele unit are considerable areas of sandy, sodium and salt effected Yenrab soils on vegetated sand dunes. When disturbed Yenrab soils are subject to severe wind erosion and probably could not be revegetated.

The Janise, Bylo and Iosepa silt loams occur on basin floors and slopes to 3 percent such as the area adjacent to the Lakeside

highway. When disturbed these soils are moderately to highly erosive. These soils are sodium affected and would be very difficult to revegetate necessitating use of considerable amounts of soil amendments, such as gypsum, to attain a reasonable likelihood of revegetation.

Should soils be disturbed the Tooele soil is approximately 4 times more erodible than the Amtoft material and approximately 2 times more erodible than the Cliffdown material on an equal slope. Considerable rilling of Tooele soils was observed in the project area during modest runoff events.

Vegetation and Range Resources

Three vegetation communities are dominant in the project area. Salt desert shrub is predominant on the valley floor and the alluvial fans while some fingers of juniper have grown down from the higher elevations, in the valley and up the sides. In areas with poor drainage and high alkalinity the greasewood community occurs. Intermixed within these communities are infestations of non-native weeds in varying amounts. Cheatgrass, tumble mustard, russian thistle and halogeton are problematic and have been increasing throughout the Great Basin. Natural or artificial disturbance is advantageous to these introduced species that are highly competitive with native perennial grasses and shrubs. Areas of special concern that shouldn't be denuded of vegetation are stabilized sand dunes that have healthy quantities of sand dropseed, ricegrass and hopsage. No special status plant species are known to occur in this area.

The proposed project is located within two grazing allotments, the Skunkridge allotment to the south and the North Puddle Valley allotment. The Skunkridge allotment is permitted for 575 cattle from November 1 through May 15 for a current total of 3285 BLM AUMs and 488 State AUMs. The North Puddle Valley Allotment is grazed by 2950 sheep from December 1 through April 30 with 1475 AUMs licensed by the BLM. There are two fences that the proposed project would intersect as shown on Figure 3.

Wildlife

The proposed mining operation lies within the Puddle Valley antelope unit. This herd was established through a reintroduction by the Division of Wildlife Resources in cooperation with the BLM. Since 1975, approximately 200 antelope had been released in this area. Numbers steadily increased until the past few years of drought. Recent aerial counts revealed the population is continuing to decline with fawn production averaging 18 fawn/100 does. Critical fawning habitat for this herd is located along the foothills in T.2N., R.9W., Secs. 9, 16, 21, 27, 28, 33, & 34. This area contains a number of juniper trees as well as some deep washes which both provide hiding and thermal cover important for

fawns. Water sources are not too far from this foothill area.

The other big game species utilizing this area is mule deer. The entire mountain has been classified by the Division of Wildlife Resources as high use yearlong range for mule deer. However, critical fawning areas are located higher up on the mountain.

Other species found within this area are chukar, cottontail, and jackrabbits.

T & E and Protected Species

An active golden eagle nest is located less than 1/4 mile west of the northern permit boundary and within 1/2 mile of portions of the proposed pit area. This pair has been documented as being successful over the past three years, fledging a total of three young.

Ferruginous hawks have also been known to nest throughout Puddle Valley. One nest site was observed east of the proposed haul road this past season. These hawks typically nest in juniper trees, but have been known to nest on the ground as well. Ferruginous hawks are a Category 2 species and are currently being reviewed for proposal to list as threatened.

Ferruginous hawk inventories were conducted on June 19 and July 7, 1992. No active nests were noted on the haul road alternatives; however, three active nests and five inactive or alternate nests were observed in close proximity to the mine. The approximate locations of these nest sites are shown on Figure 6. These nest sites were used to define three active territories for ferruginous hawks. Each territory contains the active nest, alternative nests, and hunting territory. Both the Pony Express and the Box Elder Resource Management Plans specify that surface disturbing activities should be limited within one half mile of active raptor nests form March 15 through July 15. All three of the active nests as well as the five alternate nests are within one quarter mile of the mine pit and crusher site. From year to year the hawks may nest in any of the alternate nests.

Cultural Resources

Within the portions of the project area that have been surveyed no significant sites have been found.

Recreation

The proposed project falls within the Pony Express Extensive Recreation Management Area, along with another 1.8 million acres of Public Lands. No developed sites or facilities are located in the vicinity of the project. Incidental recreation uses such as hunting, driving for pleasure and OHV uses occur on a low frequency

basis.

OHV designations currently in effect fall under a "Limited" category. The limitation is actually a closure of organized OHV events year round. Casual use of OHV uses is "Open." (Pony Express RMP, Jan. 1990)

A plan amendment is underway to amend OHV designations made in the Pony Express RMP of 1990. The proposed action is to limit the entire area affected under the proposed Delle Limestone Quarry operation to existing roads and trails.

Visual Resources

The area was inventoried in 1979 under Visual Resource Management guidelines and carried through the Pony Express RMP of 1990 as a Class IV area. The objective of VRM management class IV is:

> To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

The chief visual resource management objective will be to reduce visual impacts that are observable, and would dominate the view from the Lakeside highway.

Environmental Impacts

Impact of the Proposed Action

Irreversible Commitments of Resources

An irreversible commitment of resources results from actions altering an area such that it cannot be returned to its undisturbed condition through perpetuity or for an extended period of time; or it is a commitment that completely utilizes a nonrenewable resource.

The extraction of approximately 7.75 million tons of high calcium limestone would represent an irreversible commitment of pubic land resources as a result of project implementation. Since the pits would be backfilled and all other disturbances reclaimed concurrently with operations, or at the end of mine life, the mining of the limestone is the only irreversible commitment.

Irretrievable Commitments of Resources

Irretrievable commitments include lost production or lost use of renewable resources due to passage of time. The opportunity to use a renewable resource is foregone during the period of time it is committed to other uses or during periods of non-use.

Air Quality

The impacts of the construction and operation of the plant on air quality are dependent upon a number of factors including the haul road chosen, and the particular season and technology used to mitigate any pollutants, and existing sources of air pollution.

The Utah Bureau of Air Quality does require a permit for the operation and modelling of the anticipated impacts that the proposal will have on the ambient air quality. The Utah Bureau of Air Quality requires only calculations of pollutant concentration from the operations at a specific point (e.g. a property or permit boundary). Pollutants are not allowed to exceed a specified concentration at that point.

Qualities of the air include NOX which will be a result of the coal fired kiln. NOX is a contributor to PM-10, which contributes to the formation of smog, a significant problem along the Wasatch Front. The fugitive dust caused by the blasting, mining, and hauling under Best Control Technology (BCT) is limited to a maximum of 20% Opacity, while point source dust opacity is limited to 10% Opacity.

Should the anticipated total emission from the project exceed 100 tons per year, or 4000 tons per year of NOX, one year of background data will be required to comply with Prevention of Significant Degradation (PSD) monitoring regulations. Pursuant to recent regulations, PM-10 increments covered under PSD regulations can be bought, sold, or traded to remain in compliance.

Geology and Mineral Resources

Over the life of the quarry 7.5 million tons of high calcium limestone would be used; an insignificant portion of U.S. reserves.

Water Resources

Due to the modest amount of water needed for dust suppression and distance from existing wells no significant impact would be expected due to use of groundwater. The fuel containment structure, overall lack of chemical processing and distance to the water table indicates that there is little or no potential for groundwater contamination from project facilities.

Construction of the Lakeside Mountains project would alter local drainage patterns and erosion rates. Natural channels in the vicinity of the project site are ephemeral with high natural

erosion rates, however there are no downstream perennial receiving waters. Therefore, minor increased sediment loading would not be a significant impact.

Soils

Long term topsoil storage would result in a moderate loss of soil fertility that would be mitigated by use of about 1 ton/acre mulch crimped into the soil and nitrogen fertilizer. Erosion of stockpiled fine grained soils could be significant. Use of soil surface tackifiers and revegetation has been proposed to reduce erosion.

Range/Vegetation

Loss of AUMs, based on 200 acres of disturbance, would be 2 AUMs cattle and 15 AUMs sheep. The various haul road alternatives have little or no effect on AUMs lost. The proposed haul road would disturb a greater proportion of desirable perennial vegetation, however this is offset by a reduction in the total disturbance for all haul road alternatives except alternative 6. The plan-of-operations provides for installation of cattle guards where new roads intersect range fences.

For all alternatives the loss of AUMs is insignificant.

Wildlife

Any increase in traffic through the above mentioned antelope fawning areas would be a very detrimental disturbance to the antelope herd. Haul road alternatives #2,3, & 5, cross through this critical area. Selection of alternatives #1, 4, or 6, would avoid creating any major disturbances for fawning antelope. The development of water sources located within the fawning grounds would also reduce potential contacts between haul trucks and antelope. A maximum speed limit of 45 mph during the day and 35 mph at night would help to minimize road kills.

Field inspection noted well developed antelope trails through the proposed pit area. Fences should be constructed to allow for free movement of antelope. There are various methods to achieve this objective depending on the materials preferred to be used.

No significant impacts to mule deer habitat are anticipated as well as minimal impacts to cottontail and jackrabbit populations.

Threatened or Endangered and Sensitive Species

The proposed mining operation could be detrimental to the known golden eagle pair during the period critical to nesting. This period is typically from March 1 to July 15. However, the milder climate at this location allows this pair to begin nesting earlier,

mid-February to mid-June. All activities related to the mining operation within a 1/2 mile of the nest should cease during this critical time in order to reduce potential impacts to this golden eagle pair.

Negative impacts could occur to nesting ferruginous hawks due to mining related activities. Selection of haul road alternatives #1, 4, or 6 would avoid the majority of the preferred nesting habitat. However, renewed use of the existing right-of-way, from the old quarry to the kiln, could impact nesting hawks if they are found to utilize the area.

One ferruginous hawk territory consists of a single active nest and is located in a deep canyon to the east of waste rock disposal pile #1. Although the nest is within one quarter mile of the proposed activities, it is topographically isolated and, although the birds will hear the noise from the activities they will not be able to view them from the active nest. The territory should continue to be used, but might be abandoned if the plan is approved. A second territory, consisting of one active and three alternate nest sites is located within approximately 1000 feet west of the pit area. Unless activities at the mine are seasonally restricted, this territory would probably not be used. The third territory, consisting of one active and two alternate nest sites, is located in an area that would be surrounded by mine facilities including the crusher, two haul roads, a waste rock dump and buildings. If the plan is approved, this territory would probably be abandoned.

Both raptor species are protected under the Migratory Bird Treaty Act (16 USC 703), with the golden eagle receiving further protection from the Eagle Act (916 USC 668). These acts specify that it is unlawful to pursue, hunt, or "take" (kill) any bird species or remove or possess parts thereof that are protected under these regulations. Violation of these regulations could result in fines up to $5,000 or 1 year imprisonment, or both.

Recreation

Safety hazards to recreationists from fast moving, heavy equipment on the haul road will present a possible conflict with hunters or OHVers that travel the route. Since OHV designations will soon be "Limited to existing roads and trails", all use must remain on existing roads, including the haul road route. Posting of warning signs in conjunction with the overall light use in the area would result in insignificant impacts to recreation.

Visual Resources

The proposed route for the haul road would create visual impacts from construction of several miles of new road. Much of the Quarry would be screened from view by a low ridge. Because the area falls in a VRM Class IV area, major modifications may occur. The

area is not considered foreground scenery, nor is it highly sensitive, however precautions should be taken to insure that impacts are minimized through careful location, minimal disturbance, and repeating the basic elements of form, line, color and texture. Haul roads should not be cut into the hillsides of the Lakeside Mountains. The proposed haul road is located below the steep range-front slope to eliminate sight of the haul road from the Lakeside highway, and minimize visual scars along the foothills.

Cross sections of the proposed haul road were plotted in two of the more prominent areas within section 9 (figure 5). A 5.5′ cut would result from road construction. Most of the cut would be screened by the topsoil windrows and the road would be difficult to see from the Lakeside highway.

Haul road alternatives 2 through 6 (figure 5) would be more visible from the highway due to proximity and presence of road segments traversing the alluvial slopes.

Cultural Resources

A cultural resources inventory of areas that will be impacted by the proposed action was contracted by MERR. No significant sites were located during the inventory. Should subsurface cultural material be located during mining or haul road construction, activities will cease and the SLDO archaeologist will be notified immediately.

ANALYSIS OF HAUL ROAD ALTERNATIVES

Route 1

This route avoids critical antelope fawning area as well as the preferred nest sites of the ferruginous hawk, ie., juniper trees. There is some potential for increased antelope road kill as antelope move up the mountain for the summer months. There are possible impacts to ground nesting ferruginous hawks if any nests are located within a critical distance of the route. With minor changes to the proposed route highly erosive sand dune areas would be avoided. Haul distance from the quarry to the plant would be 10.4 miles.

Route 2

Southern portion of route crosses through critical antelope fawning site as well as preferred nest sites for ferruginous hawks. This route travels very close to an established water source used by antelope and other wildlife species in T.1N., R.9W., Sec. 4. There are possible impacts to ground nesting ferruginous hawks if any nests are located within a critical distance of the route. About 1/2 mile of this route is through highly erosive sand dunes. Haul

distance would be 10.7 miles.

Route 3

The southern portion of this route crosses through critical antelope fawning site as well as preferred nest sites for ferruginous hawks. There are possible impacts to ground nesting ferruginous hawks if any nests are located within a critical distance of the route. Substantial portions of this route would be through moderately to highly erosive soils. Haul distance would be 11 miles.

Route 4

This route bypasses major fawning site for antelope as well as preferred nest sites for ferruginous hawks. However, a few antelope have been known to utilize the Skunkridge area for fawning as well. There are possible impacts to ground nesting ferruginous hawks if any nests are located within a critical distance of this route. Substantial portions of this route would be through moderate to highly erosive soils. Haul distance would be 14.2 miles.

Route 5

The southern portion of this route crosses through critical antelope fawning site as well as preferred nest sites for ferruginous hawks. There are possible impacts to ground nesting ferruginous hawks if any nests are located within a critical distance of this route. Substantial portions of this route would be through moderate to highly erosive soils. Haul distance would be 11.5 miles.

Route 6

No major impacts to wildlife are anticipated to occur along this route as it is a well established road. Wildlife are acclimated to the current traffic level along this route, however an adjustment would be required due to the increased traffic. Selection of this alternative would result in a haul distance of 18.5 miles and necessitate a 45% increase in haul truck traffic to transport a given volume of rock when compared to the proposed route. The Lakeside highway was not designed to withstand this volume of heavy traffic.

Mitigation

In addition to the numerous mitigation and reclamation measures proposed in the plan the following additional measures are required.

1. The Salt Lake District is to receive annual topsoil inventory

reports that report the amount of topsoil salvaged, stability and success of interim revegetation, and any step necessary, or taken, to reduce erosion or otherwise stabilize topsoil.

2. Annual project reviews will be conducted by the BLM and operator to identify feasible opportunities for concurrent reclamation. These reviews may include adjustments in mining or reclamation activities to achieve earlier reclamation or to address unforeseen adverse impacts.

3. The operator may be required to control noxious weeds.

4. No construction approved under this Plan of Operations can begin until the operator has submitted, and the BLM has approved, a mitigation plan for ferruginous hawks (Buteo regalis). This mitigation plan will be prepared in consultation with an individual recognized as having expertise with ferruginous hawks. The expert is to be selected by the operator, but approved by the BLM. The mitigation plan will consider, but not be limited to, studies needed, enhancement of nearby hawk habitat, protection of nests, and relocation of nests.

After this mitigation plan is approved by the BLM, the mitigation plan will be a condition of approval of the Plan of Operations, and the operator will be required to implement the mitigation plan as a component of their mining operation.

5. Cattleguards will be placed where the haul road intersects existing fences.

6. Should subsurface cultural material be located during mining or haul road construction, activities will cease and the SLDO archaeologist will be notified immediately.

Persons, Groups, and other Agencies Consulted

Phil Allard	Geologist, Salt Lake District
Steven Brooks	primary author, Geologist, Pony Express RA
Jerry Blossom	Environmental Coordinator, Union Pacific Railroad
Wayne Hedberg	Utah Division of Oil, Gas and Mining
Deborah Jackson	Biologist, Pony Express RA
Gary Kidd	Range Conservationist, Pony Express RA
Signa Larralde	Archeologist, Bear River RA
Gregg Morgan	Recreation Planner, Pony Express RA
Holland Shepard	Utah Division of Oil, Gas and Mining
John Fairchild	Utah Division of Wildlife Resources
Robert Benton	U. S. Fish and Wildlife Service

Public Input Process

The Lakeside Mountain Project was posted on the electronic bulletin for over 6 months. No comments or expressions of public interest were received. Because of the potential impacts identified to three nesting pairs of ferruginous hawks, unsolicited copies of the final Environmental Assessment will be sent to groups who have identified a concern for wildlife in the western part of Utah. Any decision on this Environmental Assessment will not be made until thirty days have passed since the Environmental Assessment was sent to these groups.

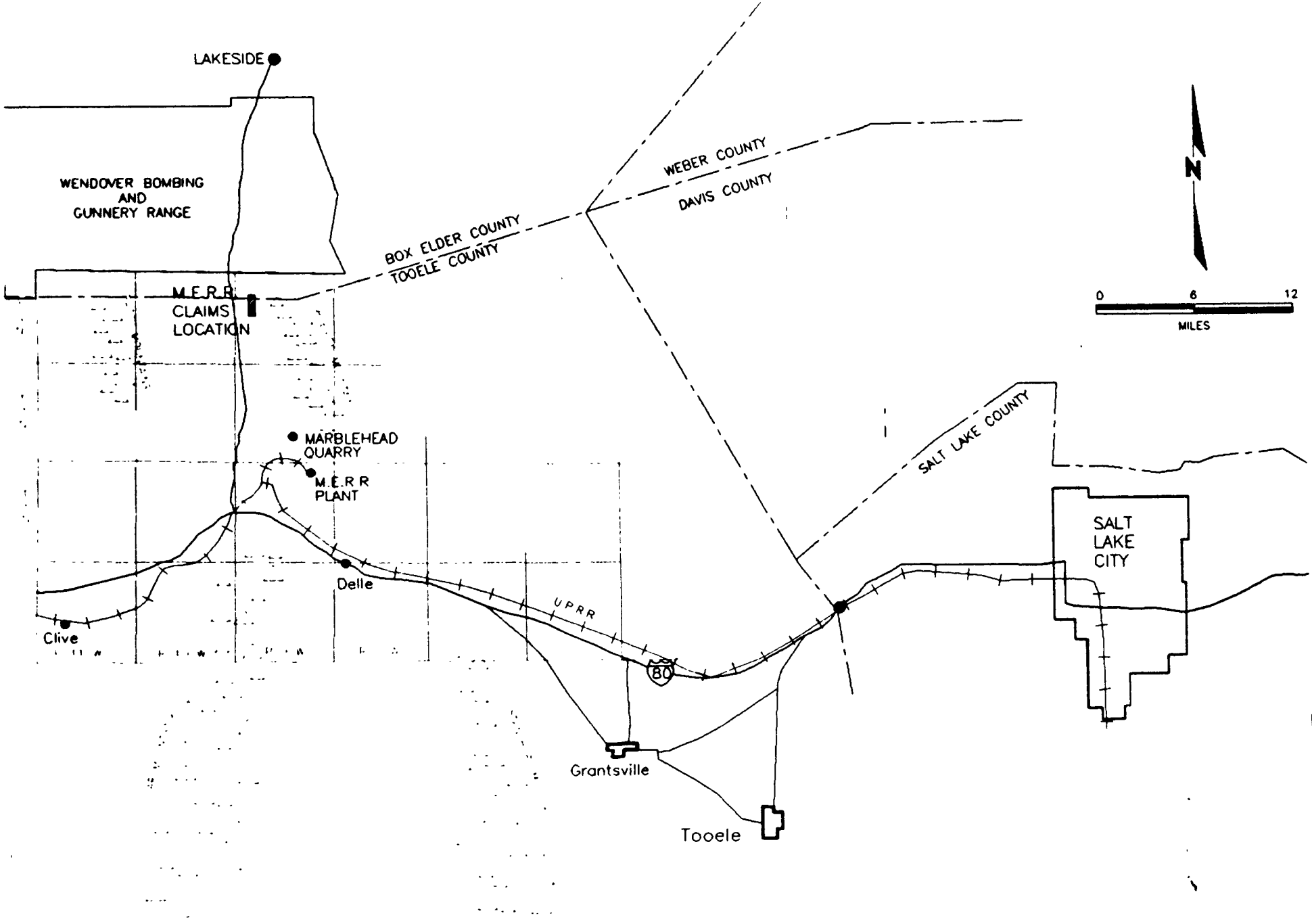


Figure 1 ... Project Location

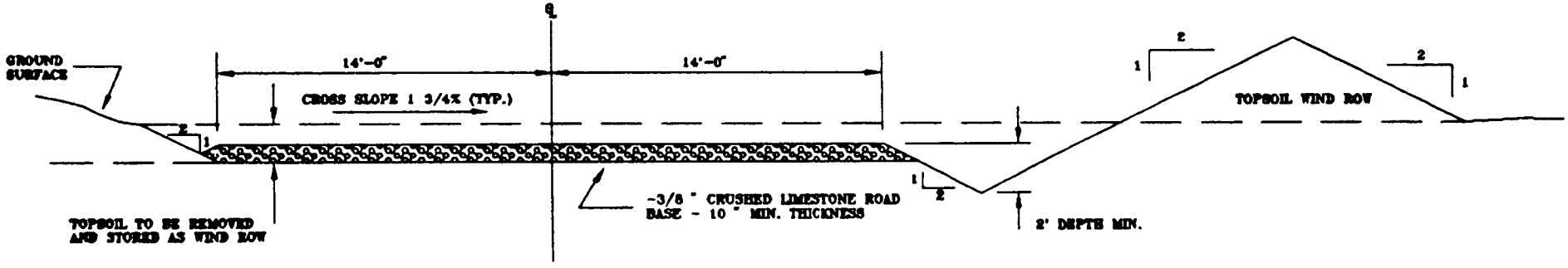


Figure 2 ... Haul Road Detail

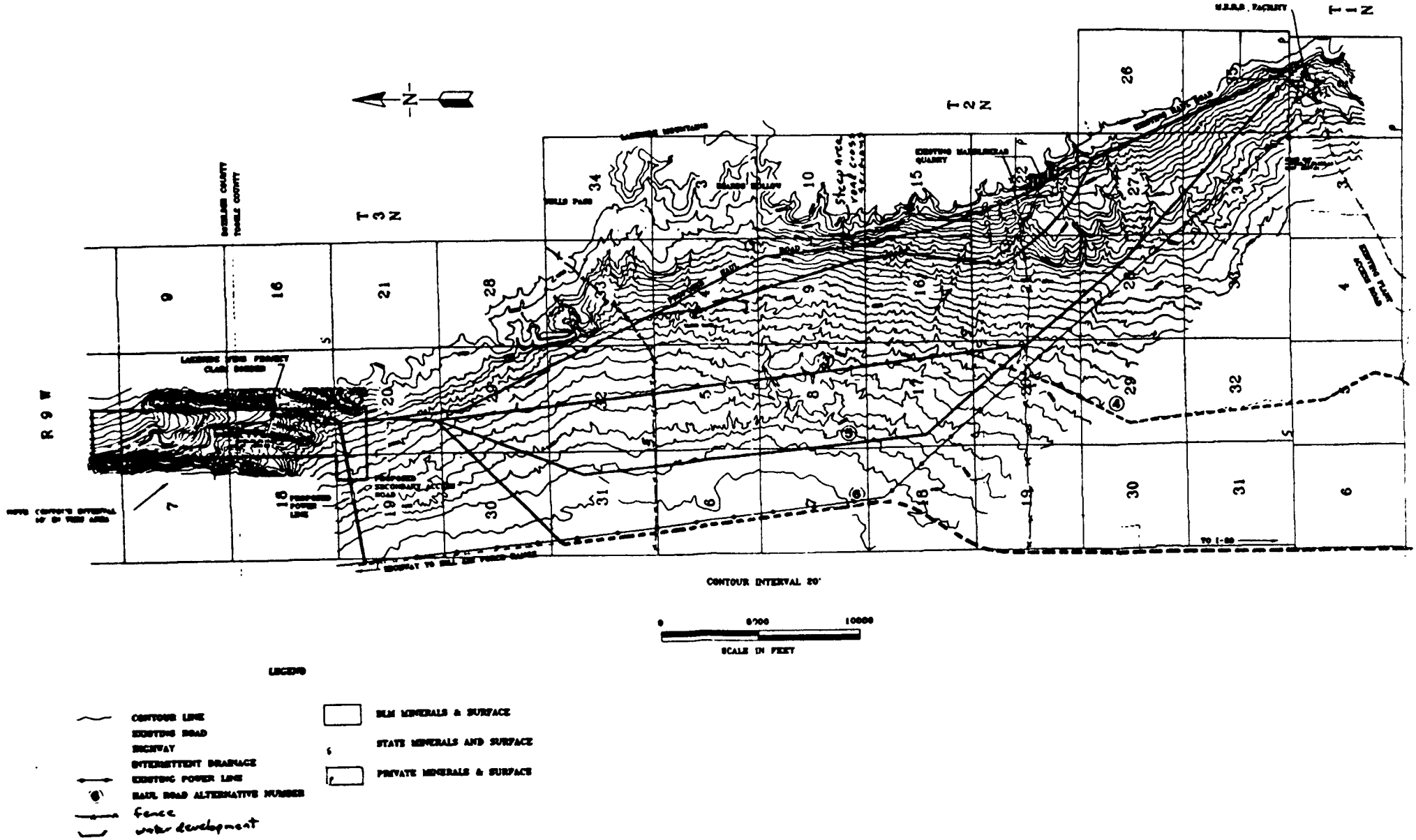


Figure 3 ... Haul Road Alternatives

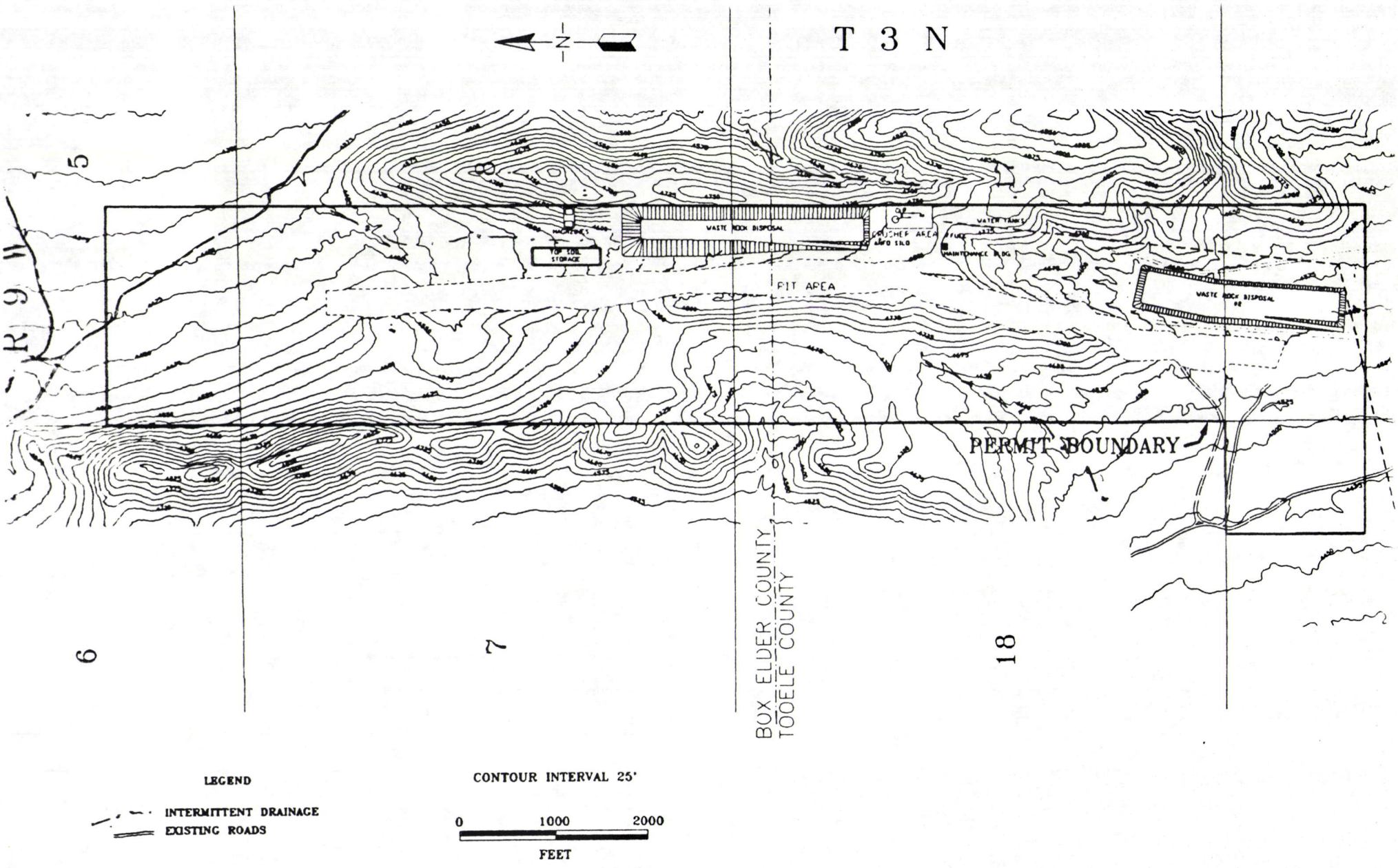
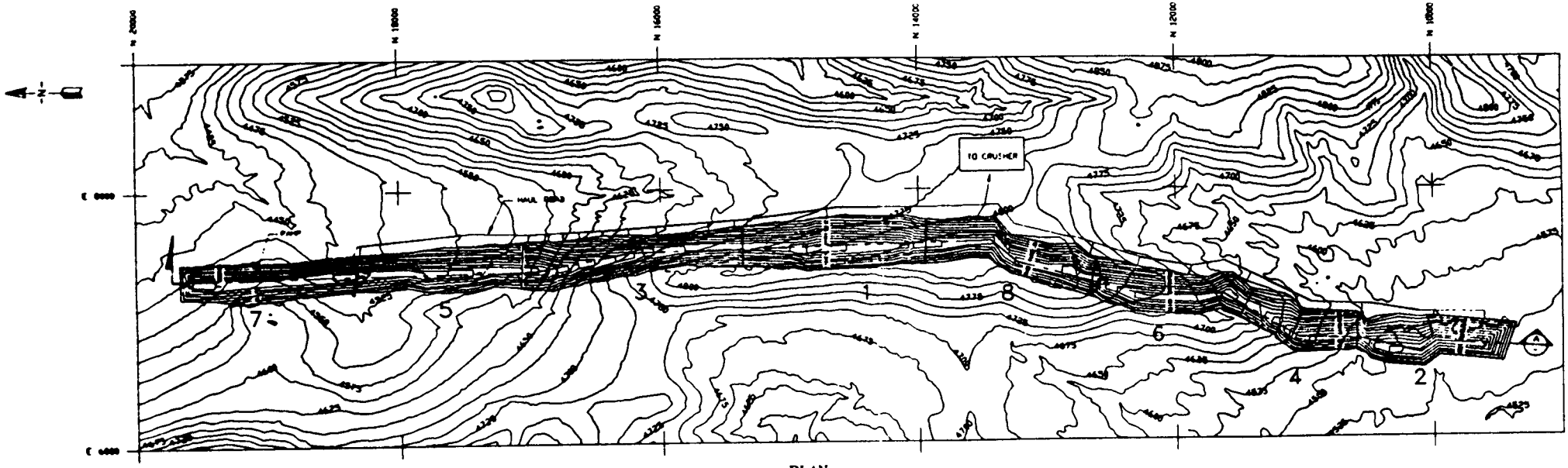
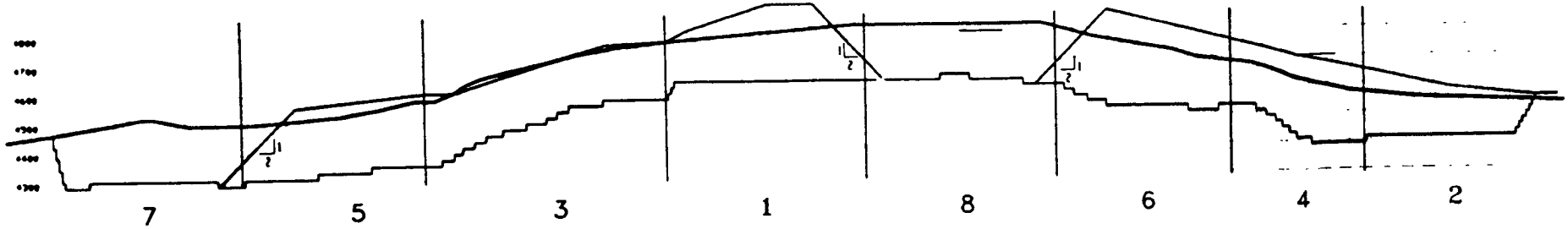


Figure 4 ... Surface Layout

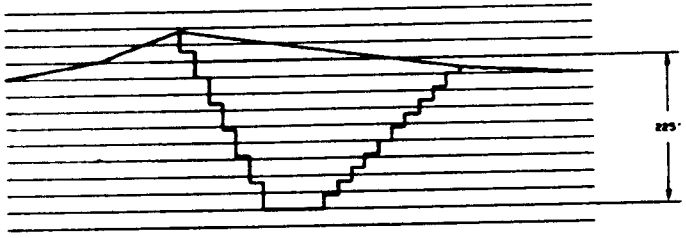


PLAN



SECTION A-A LOOKING EAST

2:1 EXAGGERATED VERTICAL SCALE



TYPICAL PIT CROSS SECTION

LEGEND

QUARRY BOTTOM

WASTE ROCK BEFORE FINAL RECLAMATION

EXISTING TOPOGRAPHY

0 200 400

METRIC FEET

Figure 5 ... Pit Sequence

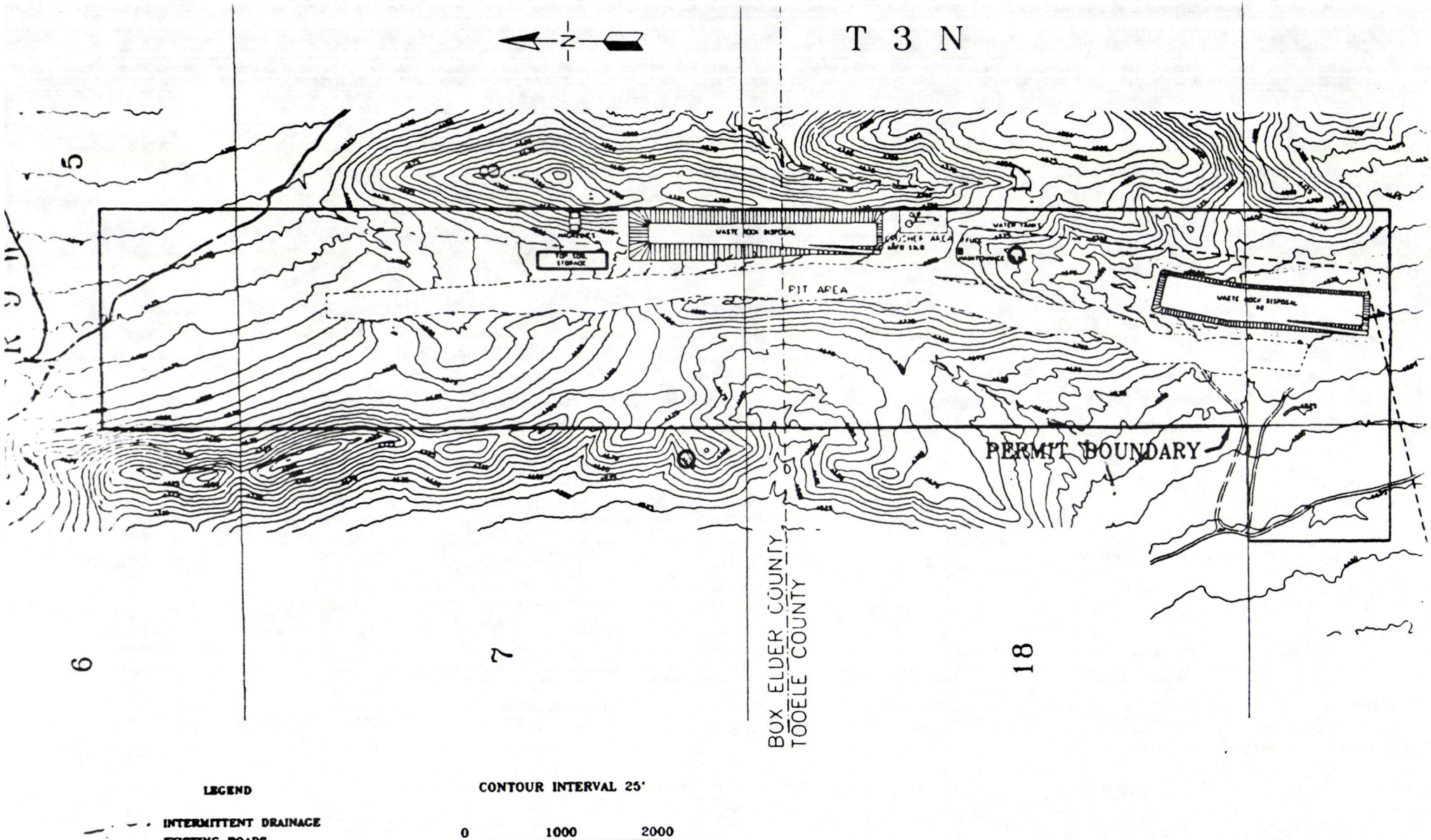


Figure 6 ... Ferruginous Hawk

Nest Sites

State of Utah

Department of Community & Economic Development
Division of State History
Utah State Historical Society

Norman H. Bangerter
Governor
Max J. Evans
Director

300 Rio Grande
Salt Lake City, Utah 84101-1182
(801) 533-5755
FAX (801) 364-6436

April 22, 1992

Signa Larralde, Archaeologist
Bureau of Land Management
Bear River Resource Area
2370 South 2300 West
Salt Lake City, Utah 84119

RE: Lakeside Mountains Lmestone Quarry Project, Tooele and Box Elder Counties - U-92-SJ-105bsp

In Reply Please Refer to Case No. 92-0568

Dear Ms. Larralde:

The Utah State Historic Preservation Office received the above referenced report on April 17, 1992. The report states that no cultural resources were located during the survey of the project area. We, therefore, concur with your recommendation that No Historic Properties will be impacted by the project.

This information is provided on request to assist the Bureau of Land Management with its Section 106 responsibilities as specified in 36CFR800. If you have questions or need additional assistance, please contact me at (801) 533-7039.

Sincerely,

James L. Dykman
Regulation Assistance Coordinator

JLD:92-0568 OR/NP/NE

c: Kenneth L. Wintch, Archaeologist, Division of State Lands
355 West North Temple, 3 Triad Center, Suite 400
Salt Lake City, UT 84180-1204

c: Pamela Grubaugh-Littig, Division of Oil, Gas and Mining

c: Michael R. Polk, Principal Investigator, Sagebrush Archaeological Consultants, 3670 Quincy Avenue, Suite 203, Ogden, Utah 84403

— Attachment 1 ... Letter from Division of State History —